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Simulation of SU(2) gauge theory with improved domain-wall fermions

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In this work, we study SU(2) gauge theory with many flavors using
the improved domain-wall fermions, which is realized by the stout-HYP
link smearing and the optimal domain-wall formulation.
In contrast to the standard domain-wall fermions used in the previous
studies, it enables us to investigate the small fermion mass region due
to the much suppressed residual mass.
With the improved domain-wall fermions, the spectrum and the residual
mass are examined on previously generated configurations as well as
in dynamical simulations.
We also discuss the extension to simulations of the epsilon-regime.

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